

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at page 22, line 14, with the following rewritten paragraph:

Shape coefficients SF-1 and SF-2 are sphericity factors for the present invention, which are measured as follows. An S-4200 field emission scanning electron microscope (Hitachi Ltd.) is used to obtain SEM images of toner particles. Then, 300 images are randomly selected, and the information of the images is introduced to a ~~Luzex~~ LUZEX AP image analyzer (Nireco Corporation) through an interface and analyzed by the device. Then, using the following formulae, SF-1 and SF-2 are defined. It is preferred that SF-1 and SF-2 are measured using a ~~Luzex~~ LUZEX analyzer, but as far as the same analysis can be made, devices being used are not limited to the above-mentioned FESEM and image analyzer.

$$SF-1 = (L^2/A) \times (\pi/4) \times 100$$

$$SF-1 = (P^2/A) \times (\pi/4) \times 100$$

where "L" is the absolute maximum length of a toner particle, "A" is the projected area of a toner, and "P" is the maximum perimeter of a toner.

Please replace the paragraph beginning at page 37, line 5, with the following rewritten paragraph:

Specific examples are BONTRON 03 as the negrosine dye, BONTRON P-51 as the quaternary ammonium salt, BONTRON S-34 as the alloy metal azo dye, oxynaphthoic acid metal complex E-82, the salicylic acid metal complex E-84, the phenolic condensate E-89 (available from Orient Chemical Industries), the quaternary ammonium salt molybdenum complexes TP-302, TP-415 (available from Hodogaya Chemical Industries), the quaternary ammonium salt-~~Copy Charge~~ COPY CHARGE PSY VP2038, the triphenylmethane

derivative ~~COPY BLUE~~ COPY BLUE PR, the quaternary ammonium salts ~~COPY CHARGE~~ COPY CHARGE NEG VP2036 and ~~COPY CHARGE~~ COPY CHARGE NX VP434 (available from Hoechst), LRA-901, LR-147 as the boron complex (available from Japan Carlit Co., Ltd.), copper phthalocyanine, perylene, quinacridone, azo pigments, and other polymer compounds containing a functional groups such as sulfonic acid group, carboxyl group, quaternary ammonium salt, and the like.

Please replace the paragraph beginning at page 45, line 15, with the following rewritten paragraph:

Examples of the commercial products are ~~Surflon~~ SURFLON S-111, ~~Surflon~~ SURFLON S-112, ~~Surflon~~ SURFLON S-113 (available from Asahi Glass Co., Ltd.), ~~Fluorad~~ FLUORAD FC-93, ~~Fluorad~~ FLUORAD FC-95, ~~Fluorad~~ FLUORAD FC-98, ~~Fluorad~~ FLUORAD FC-129 (available from Sumitomo 3M, Co., Ltd.), ~~Unidyne~~ UNIDYNE DS-101, DS-102 (available from Daikin Industries, Ltd.), ~~Megaface~~ MEGAFACE F-110, ~~Megaface~~ MEGAFACE F-120, ~~Megaface~~ MEGAFACE F-113, ~~Megaface~~ MEGAFACE F-191, ~~Megaface~~ MEGAFACE F-812, ~~Megaface~~ MEGAFACE F-833 (available from Dainippon Ink and Chemicals Incorporated), ~~Eftop~~ EFTOP EF-102, EF-103, EF-104, EF-105, EF-112, EF-123A, EF-123B, EF-306A, EF-501, EF-201, EF-204 (available from JEMCO Inc.), FTERGENT F-100, FTERGENT F-150 (available from NEOS), and the like.

Please replace the paragraph beginning at page 45, last line, with the following rewritten paragraph:

Examples of cationic surfactants are primary, secondary or tertiary amines having a fluoroalkyl group, quaternary ammonium salts of fatty acids such as perfluoroalkyl (C6 to C10) sulfonamide propyltrimethylammonium salt, or the like; benzalkonium salts,

benzetonium chloride, pyridinium chloride and imidazolinium salts, examples of commercial products being ~~Surflon~~ SURFLON S-121 (available from Asahi Glass Co., Ltd.), ~~Fluorad~~ FLUORAD FC-135 (available from Sumitomo 3M), ~~Unidyne~~ UNIDYNE DS-202 (available from Daikin Industries, Ltd.), ~~Megaface~~ MEGAFACE F-150, ~~Megaface~~ MEGAFACE F-824 (available from Dainippon Ink and Chemicals Incorporated), ~~Eftop~~ EFTOP EF-132 (available from JEMCO Inc.), FTERGENT F-300 (available from NEOS), and the like.

Please replace the paragraph beginning at page 74, line 8, with the following rewritten paragraph:

An S-4200 FE-SEM (Hitachi Ltd.) is used to obtain SEM images of toner particles. Then, 300 images are randomly selected, and the information of the images is introduced to a ~~Luzex~~ LUZEX AP image analyzer (Nireco Corporation) through an interface and analyzed by the device.

Please replace the paragraph beginning at page 81, line 5 from the bottom, with the following rewritten paragraph:

To 1200 parts of water, 540 parts of carbon black (~~Printex~~ PRINTEX 35, Degussa AG) [DBP oil absorption amount=42ml/100mg, pH=9.5] and 1200 parts of polyester resin were added and mixed in a HENSCHTEL MIXER (Mitsui Mining), then the mixture was kneaded at 150°C for 1 hour using two rollers, extrusion cooled and crushed with a pulverizer to obtain “masterbatch 1.”

Please replace the paragraph beginning at page 82, line 10, with the following rewritten paragraph:

To a vessel, 1324 parts of “initial material solution 1” were transferred, and carbon black and wax were dispersed using a bead mill (~~ultra bead mill, Imex~~ ULTRA VISCO MILL, Aimex) under the conditions of liquid feed rate 1kg/hr, disk circumferential speed of 6m/sec, 0.5 mm zirconia beads packed to 80% volume% and 3 passes. Next, 1324 parts of a 65% ethyl acetate solution of “low molecular weight polyester 1” was added and dispersed in 2 passes by the bead mill under the aforesaid conditions to obtain “pigment/WAX dispersion 1”. The solids concentration of “pigment/WAX dispersion 1” (130°C, 30 minutes) was 50%.

Please replace the paragraph beginning at page 89, line 4, with the following rewritten paragraph:

To a vessel, 1324 parts of “initial material solution 2” were transferred, and carbon black and wax were dispersed using a bead mill (~~ultra bead mill, Imex~~ ULTRA VISCO MILL, Aimex) under the conditions of liquid feed rate 1kg/hr, disk circumferential speed of 6m/sec, 0.5 mm zirconia beads packed to 80% volume% and 3 passes. Next, 1324 parts of a 65% ethyl acetate solution of “low molecular weight polyester 1” was added and dispersed in 2 passes by the bead mill under the aforesaid conditions to obtain “pigment/WAX dispersion 2.” The solid concentration of “pigment/WAX dispersion 2” (130°C, 30 minutes) was 50%.

Please replace the paragraph beginning at page 90, line 3, with the following rewritten paragraph:

To a vessel, 1324 parts of “initial material solution 3” were transferred, and carbon black and wax were dispersed using a bead mill (~~ultra bead mill, Imex~~ ULTRA VISCO MILL, Aimex) under the conditions of liquid feed rate 1kg/hr, disk circumferential speed of 6m/sec, 0.5 mm zirconia beads packed to 80% volume% and 3 passes. Next, 1324 parts of a 65% ethyl acetate solution of “low molecular weight polyester 1” was added and dispersed in

4 passes by the bead mill under the aforesaid conditions to obtain "pigment/WAX dispersion 3." The solid concentration of "pigment/WAX dispersion 3" (130°C, 30 minutes) was 50%.

Please replace the paragraph beginning at page 91, line 2, with the following rewritten paragraph:

To a vessel, 1324 parts of "initial material solution 4" were transferred, and carbon black and wax were dispersed using a bead mill (~~ultra-bead mill, Imex~~ ULTRA VISCO MILL, Aimex) under the conditions of liquid feed rate 1kg/hr, disk circumferential speed of 6m/sec, 0.5 mm zirconia beads packed to 80% volume% and 3 passes. Next, 1324 parts of a 65% ethyl acetate solution of "low molecular weight polyester 1" was added and dispersed in 3 passes by the bead mill under the aforesaid conditions to obtain "pigment/WAX dispersion 4." The solid concentration of "pigment/WAX dispersion 4" (130°C, 30 minutes) was 50%.

Please replace the paragraph beginning at page 92, line 12, with the following rewritten paragraph:

These materials were mixed and dissolved and were then added to a flask of 550g of ion-exchanged water in which 6g of nonionic surfactant (~~Nonipol~~ NONIPOL 400, available from Sanyo Chemical) and 12g of anionic surfactant (~~Neogen~~ NEOGEN SC, available from Dai-ichi Kogyo Seiyaku Co., Ltd.) were dissolved. The mixture was then dispersed, emulsified, and slowly mixed for 10 minutes while adding ion-exchanged water in which 3g of ammonium persulfate is dissolved. Nitrogen substitution is conducted, and the flask is heated in an oil bath with stirring until the mixture is 70°C, and it was kept for 5 hours so that emulsion polymerization was allowed to continue. As a result, a dispersion (2) containing

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resin particles having an average diameter of 105nm, glass transition point of 53°C, and weight average molecular weight (Mw) of 550,000 was prepared.

Please replace the paragraph beginning at page 92, last line, with the following rewritten paragraph:

[Preparation of colorant dispersion (1)]

Carbon black : 50g

(available from Cabot Corporation: Mogul L)

Nonionic surfactant : 5g

(available from Sanyo Chemicals: ~~Nonipol~~ NONIPOL 400)

Ion-exchanged water : 200g.

Please replace the paragraph beginning at page 93, line 6, with the following rewritten paragraph:

These materials were mixed and dissolved, and then dispersed for 10 minutes using a homogenizer (available from IKA: ~~Ultra-Turrax~~ ULTRA TURRAX T50). Thus, a colorant dispersion (1) containing colorant (carbon black) having an average diameter of 250nm dispersed therein was prepared.

Please replace the paragraph beginning at page 93, line 11, with the following rewritten paragraph:

[Preparation of release agent dispersion (1)]

Paraffin wax : 50g

(available from Nippon Seiro Co., Ltd.; HNP0190, melting point 85°C)

Cationic surfactant : 5g

(available from Kao Corporation: ~~Sanisol~~ SANISOL B50)

Ion-exchanged water : 200g.

Please replace the paragraph beginning at page 93, line 8 from the bottom, with the following rewritten paragraph:

These materials were heated to 95°C, dispersed using a homogenizer (available from IKA: ~~Ultra-Turrax~~ ULTRA TURRAX T50), and thereafter dispersed using a high-pressure homogenizer. Thus, a release agent dispersion (1) containing release agent having an average diameter of 550nm dispersed therein was prepared.

Please replace the paragraph beginning at page 93, line 3 from the bottom, with the following rewritten paragraph:

[Preparation of aggregated particles]

Dispersion (1) : 120g

Dispersion (2) : 80g

Colorant dispersion (1) : 30g

Release agent dispersion (1) : 40g

Cationic surfactant : 1.5g

(available from Kao Corporation: ~~Sanisol~~ SANISOL B50).

Please replace the paragraph beginning at page 94, line 5, with the following rewritten paragraph:

These materials were mixed in a round stainless flask and dispersed using a homogenizer (available from IKA: ~~Ultra-Turrax~~ ULTRA TURRAX T50). Then, the flask was put in a heating oil bath and heated with stirring to 48°C. The flask was kept at 48°C for

30 minutes and thereafter the mixture was observed with an optical microscope. It was observed that aggregated particles having an average diameter of about $5\mu\text{m}$ were formed (volume: 95cm^3).

Please replace the paragraph beginning at page 94, line 7 from the bottom, with the following rewritten paragraph:

After that, 3g of anionic surfactant (available from Dai-ichi Kogyo Seiyaku Co., Ltd.: ~~Neogen~~ NEOGEN SC) were added to the mixture and then the stainless flask was sealed. While using a magnetic seal, the mixture was stirred, heated to 105°C , and kept for 3 hours. Thereafter, it was cooled and then reaction products were filtered, well washed with ion-exchanged water, and dried to obtain a toner base. Then, 100 parts of the toner base particles, 1 part of hydrophobic silica and 1 part of hydrophobicized titanium oxide were mixed using a HENSCHEL MIXER to provide a toner. The properties of the toner are shown in Table 1, and evaluation results thereof are shown in Table 2.